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TECHNICAL LETTER NASA-110

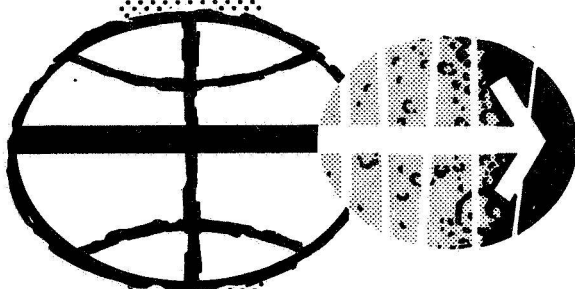
AERIAL INFRARED IMAGES OF THE GEYSERS GEOTHERMAL
STEAM FIELD AND VICINITY, SONOMA COUNTY, CALIFORNIA

By

R. M. Moxham
U.S. Geological Survey
Washington, D.C.

CASE FILE
May 1968 **COPY**

Prepared by the U.S. Geological Survey for the
National Aeronautics and Space Administration (NASA)
under NASA Contract No. T-65754-G, Task No. 160-75-01-53-10



MANNED SPACECRAFT CENTER
HOUSTON, TEXAS



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

Interagency Report
NASA-110
May 1968

Mr. Robert Porter
Acting Program Chief
Earth Resources Survey
Code SAR - NASA Headquarters
Washington, D.C. 20546

Dear Bob:

Transmitted herewith is one copy of:

INTERAGENCY REPORT NASA-110

AERIAL INFRARED IMAGES OF THE GEYSERS GEOTHERMAL
STEAM FIELD AND VICINITY, SONOMA COUNTY, CALIFORNIA*

by

R. M. Moxham**

The U.S. Geological Survey has released this report in open files. Copies are available for consultation in the Geological Survey libraries, 1033 GSA Building, Washington, D.C. 20242; Building 25, Federal Center, Denver, Colorado 80225; 345 Middlefield Road, Menlo Park, California 94025; and 601 East Cedar Avenue, Flagstaff, Arizona 86001.

Sincerely yours,

William A. Fischer
Research Coordinator
EROS Program

*Work performed in part under NASA Contract No. T-65754-G, Task No. 160-75-Q1-53-10
**U.S. Geological Survey, Washington, D.C.

UNITED STATES
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**U.S. Geological Survey, Washington, D.C.

PREFACE

The imagery contained herein was acquired by the U. S. Geological Survey Water Resources Division Twin Beechcraft D-18 using an 8-14 micron scanning infrared radiometer. It has been declassified and open filed to make it available to the scientific community.

The data was obtained for the NASA Earth Resources Survey Program under NASA Contract No. T-65754-G for use in the Geologic Applications Program under NASA Task No. 160-75-01-53-10 entitled "Geothermal Power Resources".

AERIAL INFRARED IMAGES OF THE GEYSERS GEOTHERMAL STEAM FIELD
AND VICINITY, SONOMA COUNTY, CALIFORNIA

by

R. M. Moxham

The accompanying images show some of the results of an aerial infrared survey made August 16 and 17, 1966, in the vicinity of The Geysers geothermal steam field, California (Moxham, 1967). The images cover the general area of Big Sulphur Creek valley, extending from about Squaw Creek on the northwest to the Sonoma County line on the southeast (see figure 1).

The images were made with an 8-14 micron scanning infrared radiometer, carried in the Geological Survey's Twin Beechcraft. Polarity of the accompanying prints is such that black-hot, white-cold.

A report on the geophysical evaluation of this work is in preparation. Some preliminary information on surface temperatures and on data processing is given elsewhere (Moxham and others, 1968).

REFERENCES

1. Moxham, R. M., 1967, Aerial infrared survey at The Geysers geothermal steam field, California, (Abstract): Geophysics (in press).
2. Moxham, R. M., Greene, G. W., Friedman, J. D., Gawarecki, S. J. 1968, Infrared imagery and radiometry summary report, December 1967: U. S. Geol. Survey, Interagency Report NASA-105 (Open-file report).

ILLUSTRATIONS

Figure 1 - Topographic map of parts of the Kelseyville and Lower Lake quadrangles

Image No. 15647 - August 16, 1966, 15:40; 8-14 micron filter. A-Geysers Road; B-Geysers Resort; C-Big Sulphur Creek; D-P.G. and K power plant no. 2; E-P.G. and E power plant no. 1

Image No. 15748 - August 17, 1966, 03:37, no filter. A-Geysers Resort; B-Big Sulphur Creek; C-Healdsburg-Geysers Road; D-Geysers Road; F-power plants.

Image No. 15756 - August 17, 1966, 04:00, no filter. Printed in three overlapping exposures, as follows:

15756A: A-Big Sulphur Creek; B-Cobb Creek; C-Little Geysers; D-Hot Springs Creek
(Note: a line of black dots, about 3/4 inch from the bottom of the print are static electricity discharge marks.)

15756B: A-Big Sulphur Creek; B-Cobb Creek; C-Hot Springs Creek; D-Geysers Resort; E-Geysers Road; F-Healdsburg-Geysers Road

15756C: A-Big Sulphur Creek; B-Squaw Creek C-Geysers Road; D-Healdsburg-Geysers Road

Image No. 15759 - August 17, 1966, 04:13, 8-14 micron filter. A-Geysers Resort; B-Big Sulphur Creek; C-Geysers Road

Image No. 15783 - August 17, 1966, 04:45, 8-14 micron filter. A-Geysers Resort; B-Big Sulphur Creek; C-Healdsburg-Geysers Road; D-Geysers Road; E-power line

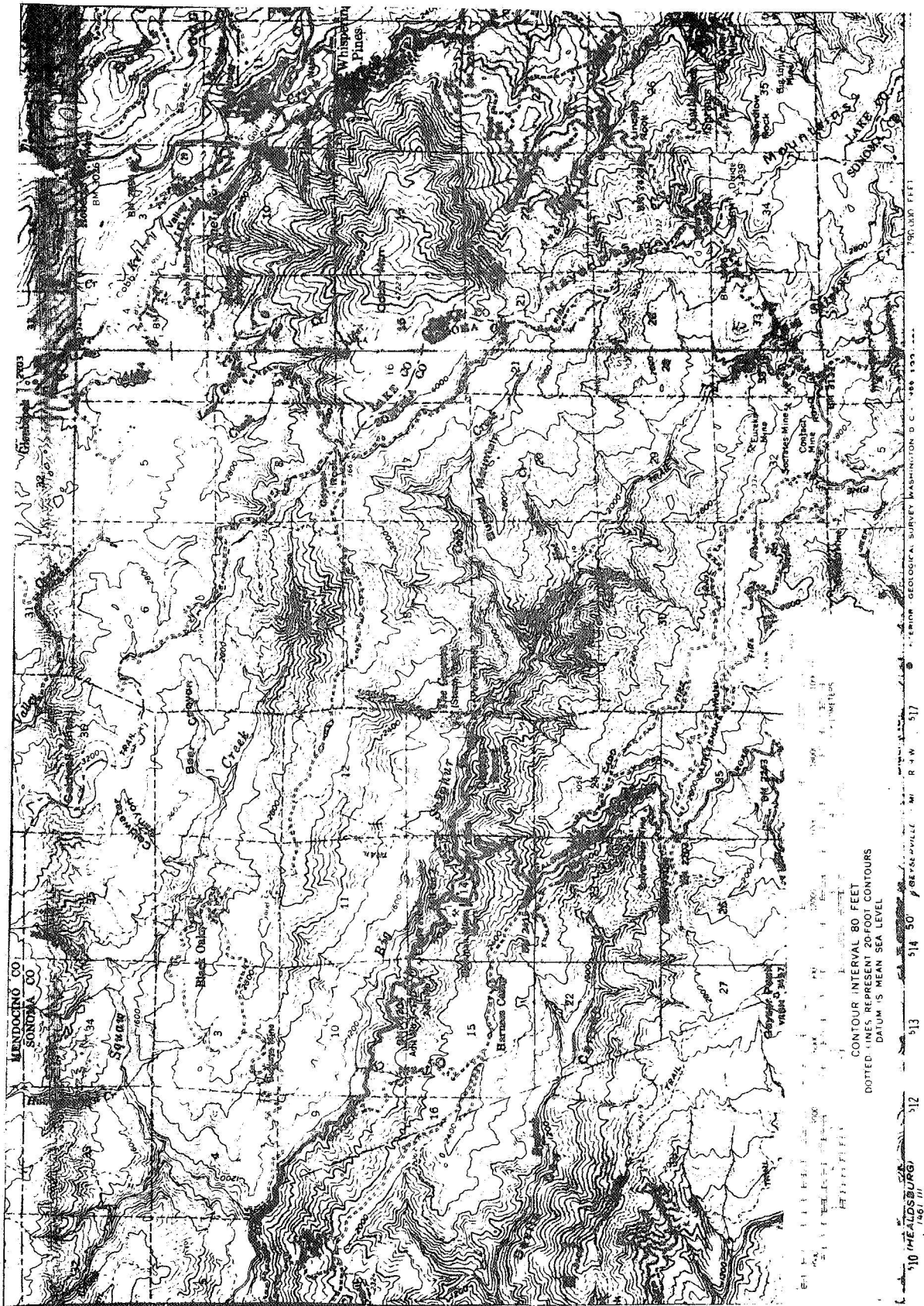


Figure 1 - Topographic map of parts of the Kelseyville and Lower Lake quadrangles



Image No. 15647 - August 16, 1966, 15:40, 8-14 micron filter.
A-Geyser Road; B-Geyzers Resort;
C-Big Sulpher Creek; D-P.G. and K power
plant no. 2: E-P.G. power plant no. 1

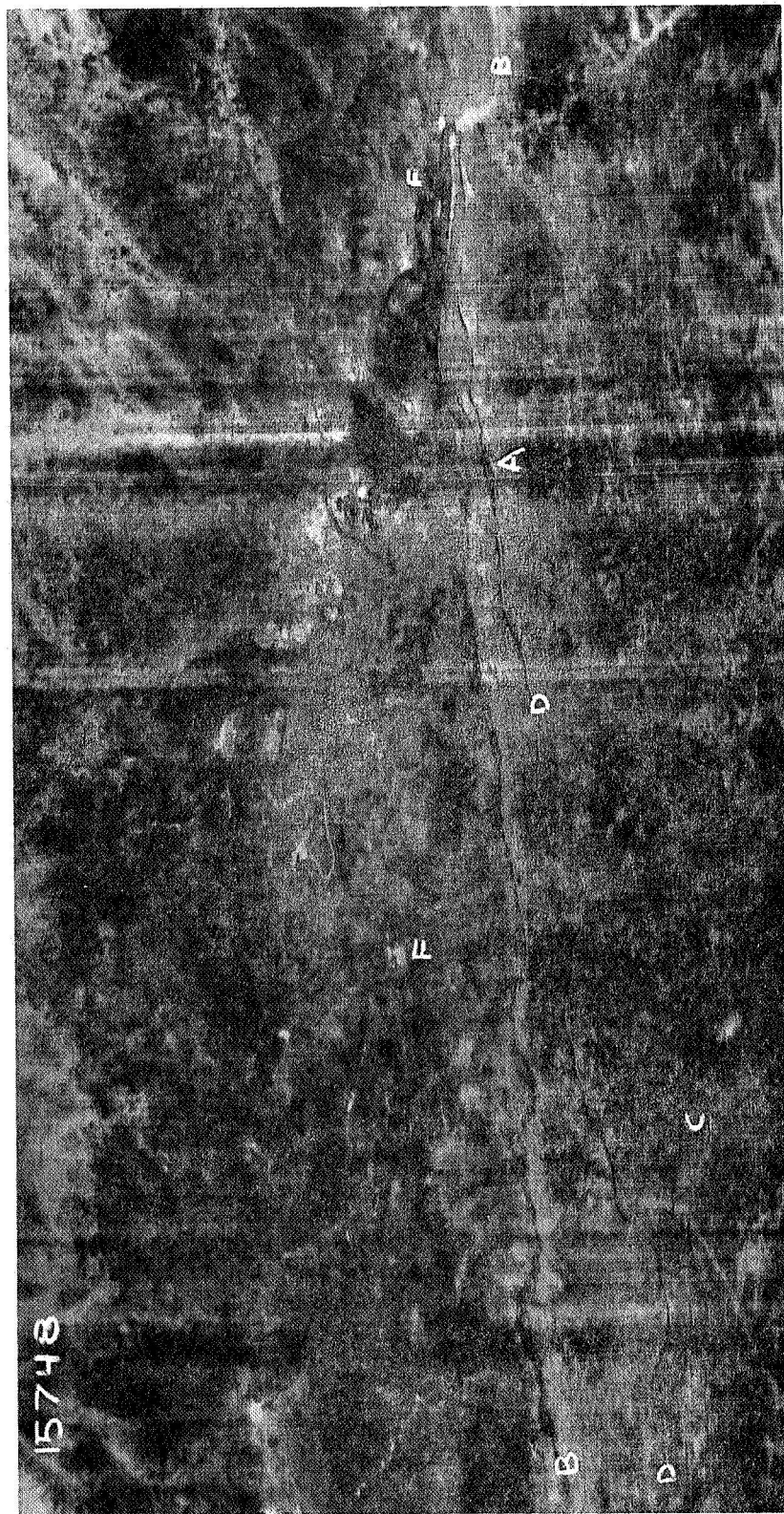


Image No. 15748 - August 17, 1966, 03:37, no filter.
A-Geysers Resort; B-Big Sulphur Creek; C-Healdsburg-
Geysers Road; D-Geysers Road; E-power plants.



Image No. 15756A - A-Big Sulphur Creek; B-Cobb Creek; C-Little Geysers; D-Hot Springs Creek (Note: a line of black dots, about 3/4 inch from the bottom of the print are static electricity discharge marks.)



Image No. 15756B - A-Big Sulphur Creek; B-Cobb Creek; C-Hot Springs Creek;
D-Geysers Resort; E-Geysers Road; F-Healdsburg-Geysers Road.

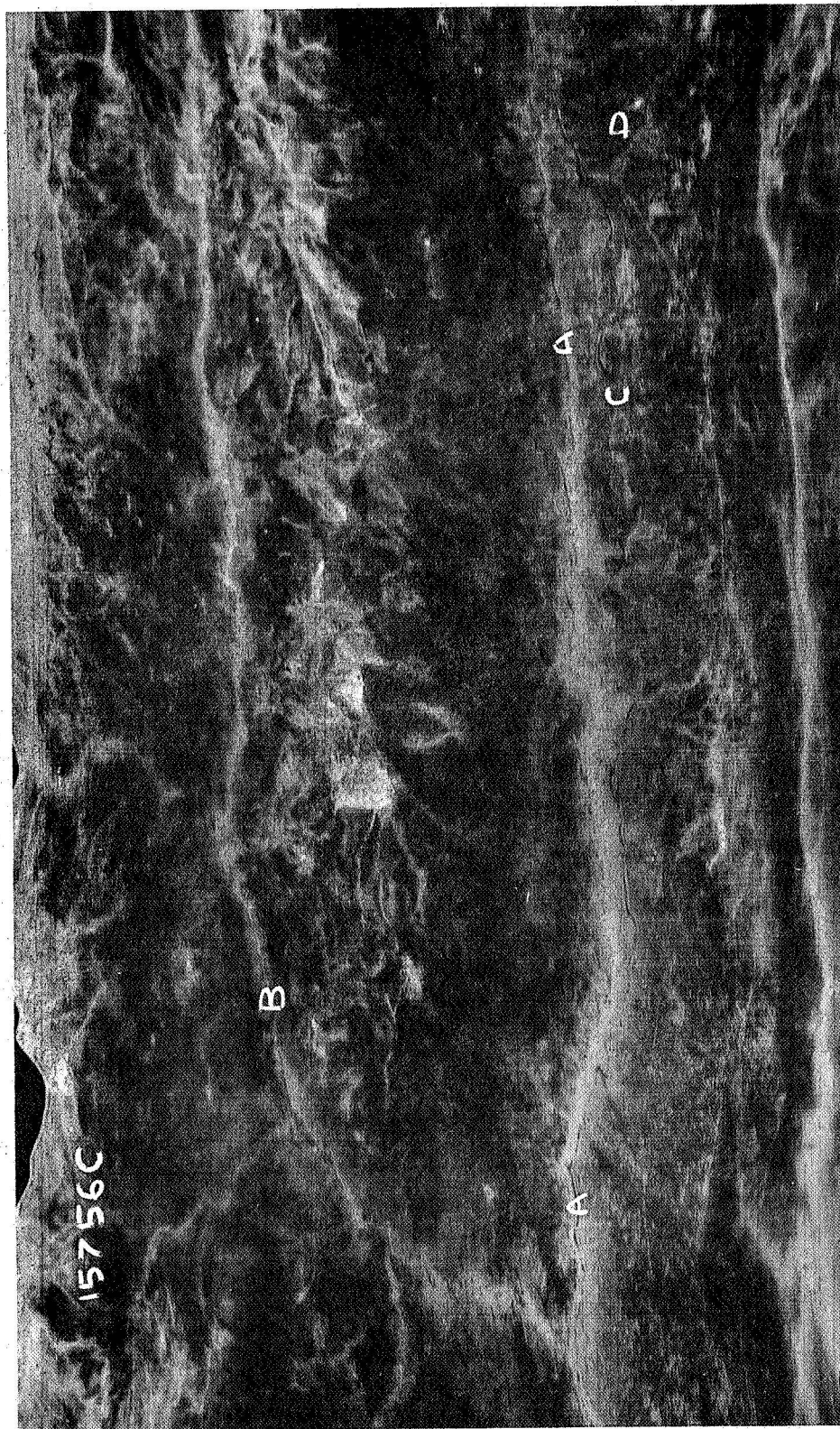


Image No. 15756C - A-Big Sulphur Creek; B-Squaw Creek, C-Geyser Road;
D-Healdsburg-Geyser Road

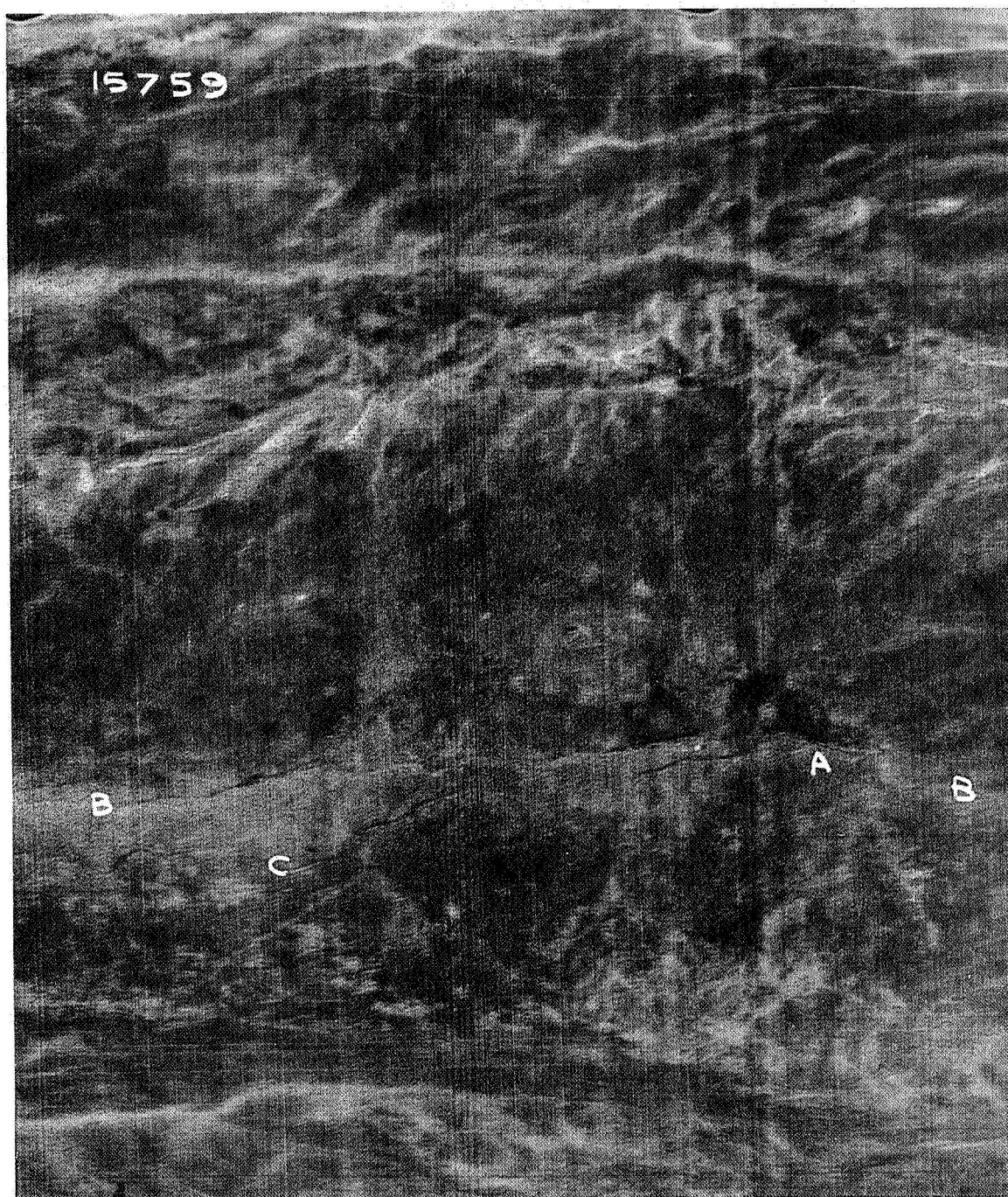


Image No. 15759 -August 17, 1966, 04:13, 8-14 micron filter.
A-Geyzers Resort; B-Big Sulphur Creek;
C-Geyser Road



Image No. 15783 - August 17, 1966, 04:45, 8-14 micron filter. A-Geysers Resort; B-Big Sulphur Creek; C-Healdsburg-Geyser Road; D-Geyser Road; E-power line.